

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Quest Aircraft

Idaho TechHelp

#### Lean Helps Quest Aircraft Soar

##### Client Profile:

Quest Aircraft, based in Sandpoint, Idaho, manufactures a new 10-seat single engine turboprop utility airplane known as the KODIAK. The aircraft is built around a commitment to modern Short Takeoff & Landing (STOL) design, rugged construction, turbine power and high useful load. Quest's origins can be traced to the 1998 formation of the Idaho Air Group, who recognized the need for a modern backcountry aircraft designed to meet the extraordinary demands of humanitarian aviation in remote areas of the world. The company employs 230 people.

##### Situation:

Originally, Quest wanted to produce 25 to 30 aircraft per year using a conventional Material Requirements Planning (MRP) to manage demand work flow. Because the aircraft was more successful than projected, Quest needed to produce 100 aircraft per year in the same facility to meet customer demand and satisfy backlog. The company began to explore Lean manufacturing as a way to meet production goals. Another challenge was to educate and organize a workforce that included people with diverse backgrounds and work philosophies. Some new workers brought their own preconceptions of Lean to Quest while others had little or no previous exposure to Lean principles. Quest selected TechHelp (TechHelp), a NIST MEP network affiliate, to provide Lean training.

##### Solution:

TechHelp provided Lean training which included TechHelp's Lean Enterprise Certification Program (LECP). LECP gave the team a thorough indoctrination to Lean and prepared them to organize and lead the company's Lean transformation. Quest applied Lean principles to the plant floor in order to better utilize space, materials, information and manpower in support of the company's aggressive production goals. An initial Value Stream Mapping exercise led Quest to improve production by reorganizing the entire production line and each work cell in the line.

The company was able to save time and excess motion by eliminating a central storeroom and moving all parts to their point of use. An initial plant-wide 5S (workplace organization) Kaizen helped create more organization and safety in the plant. Quest also developed its own Quest Production System based on the initial training on Lean principles and practice and developed a Lean culture throughout the entire organization. Quest is now on target to meet its first production takt time (maximum time allowed to produce a product in order to meet demand) goal of 10 days.

##### Results:

- \* Retained \$13 million in sales.
- \* Realized \$60,000 in cost savings.
- \* Invested over \$1 million in plant, equipment, workforce and information systems.

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- \* Improved takt times by over 60 percent.
- \* Retained 100 employees and created 50 new jobs.
- \* Improved employee satisfaction and morale.

#### **Testimonial:**

" Involving our core leaders and incorporating real-world Lean projects with the classroom training was a great kick starter for us and converted many non-believers."

Justin Wootan, Director of Operations